AUTHOR INDEX

Ahmed, I. A., *see* Tantawy, A. O.
Alim, K. A., calving intervals of milking buffalo in Egypt, 229–36.
Anthony, K. R. M., cotton interplanting in the SW. Sudan, 29–36.
Ascarelli, I., chick-growth depression caused by a detergent, 301–3.
Asker, A. A., calf mortality, &c., in Egyptian buffaloes, 151–60; *see also* El-Itriby.

Black, W. A. P., seaweeds as source of minerals, trace elements, and vitamins, in animal feedingstuffs, 51–59.
Blackett, G. A., rate and time of application of nitrogen to winter wheat, 19–23.
Brookes, A. J., production of beef from dairy-bred steers, 339–55.
Bunting, A. H., weed ecology and control in E. Central Sudan, 40–50.

Coles, R., sex ratio in fowl, 207–18.

Doggett, H., breeding for weevil resistance in sorghum grains in E. Africa, 1–9.

Eden, A., mineral composition of molassed beet pulp, 161–4.
Edwards, R. S., growth of cereals on sieved seed-beds; emergence, 167–84; survival and development, 304–20.
El-Itriby, A. A., buffalo bulls in Egypt, 156–60; *see also* Asker, A. A.

French, M. H., live-weight changes of cattle in E. Africa, 10–18.

Hancock, J., *see* Payne, W. J. A.
Hemingway, J. S., resistance of groundnuts to Cercospora leafspots, 60–68.

Jordan, H. D., crabs as pests of rice on tidal swamps, 197–206.

Latham, J. O., *see* Brooks, A. J.
Lea, J. D., *see* Bunting, A. H.
Ledger, H. P., *see* French, M. H.
Lock, G. W., manurial trial on banding disease of sisal, 219–28.
Loizides, P. A., fertilizer experiments with potatoes, cotton, and onions in Cyprus, 278–90.

Mackness, R. A., seasonality of beef supplies in New Zealand, 133–8.
Masefield, G. B., nodulation of annual legumes in Malaya, 139–50.
Mitchell, K. J., influence of nitrogen and moisture on growth of pastures, 69–78.

Nour, M. A., control of powdery mildew diseases in the Sudan, 119–31.

Oyenuga, V. A., composition of grasses in Nigeria, 237–55.

Pawson, E., fertility of maize soils in N. Rhodesia, 79–94.
Payne, W. J. A., effect of tropical climate on production by European-type cattle, 321–38.
Peacock, F. C., root-knot nematodes in the Gold Coast, 95–107.

Ramadan, D., nutritive value of *Acacia cyanophylla* seeds, 37–39.
Rees, W. J., clover establishment on power-station waste ash, 256–62.

Sabet, K. A., bacterial disease of maize in S. Rhodesia, 165–6.
Stephen, R. C., planting date and growth of tobacco, and incidence of Cercospora leafspot disease in S. Rhodesia, 291–300.

Tantawy, A. O., twinning in Egyptian cows and buffaloes, 24–28.
Tarr, S. A. J., end-of-season destruction of cotton plants in Sudan Gezira, 185–96.
Tomlinson, T. E., sulphide-containing mangrove soil and rice, 108–18.

Warwick, Jane, *see* Rees, W. J.
Willimott, S. G., *see* Anthony, K. R. M.
Wilson, P. N., the Serere herd of shorthorned Zebu cattle, 263–77.
Woodward, F. N., *see* Black, W. A. P.

SUBJECT INDEX

Acacia cyanophylla, seeds, nutritive value, 37–39.

Beans, broad, *see* Mildew, powdery.
Beef supplies, seasonality of, in New Zealand, 133–8; production, 134; exports, 135; effect on U.K. market, 137; beef, production from dairy-bred steers, 339–55; experiments at Cambridge, 341; survey of commercial dairy herds, 342; carcass measurements, 344; comparison with Argentine chilled beef, 345; preliminary results: live-weight gains, 347; carcass weights, 348; weights of joints, 348; cooking and tasting quality, 351; economics, 352; cheaper wintering systems, 354.
Beet pulp, molassed, mineral composition, 161–4.
Buffaloes, Egyptian, 151–5; calf mortality, 152; abortion, 154; sex ratio, twinning,

AUTHOR INDEX

Ahmed, I. A., *see* Tantawy, A. O.
Alim, K. A., calving intervals of milking buffalo in Egypt, 229–36.
Anthony, K. R. M., cotton interplanting in the SW. Sudan, 29–36.
Ascarelli, I., chick-growth depression caused by a detergent, 301–3.
Asker, A. A., calf mortality, &c., in Egyptian buffaloes, 151–60; *see also* El-Itriby.

Black, W. A. P., seaweeds as source of minerals, trace elements, and vitamins, in animal feedingstuffs, 51–59.
Blackett, G. A., rate and time of application of nitrogen to winter wheat, 19–23.
Brookes, A. J., production of beef from dairy-bred steers, 339–55.
Bunting, A. H., weed ecology and control in E. Central Sudan, 40–50.

Coles, R., sex ratio in fowl, 207–18.

Doggett, H., breeding for weevil resistance in sorghum grains in E. Africa, 1–9.

Eden, A., mineral composition of molassed beet pulp, 161–4.
Edwards, R. S., growth of cereals on sieved seed-beds; emergence, 167–84; survival and development, 304–20.
El-Itriby, A. A., buffalo bulls in Egypt, 156–60; *see also* Asker, A. A.

French, M. H., live-weight changes of cattle in E. Africa, 10–18.

Hancock, J., *see* Payne, W. J. A.
Hemingway, J. S., resistance of groundnuts to Cercospora leafspots, 60–68.

Jordan, H. D., crabs as pests of rice on tidal swamps, 197–206.

Latham, J. O., *see* Brooks, A. J.
Lea, J. D., *see* Bunting, A. H.
Ledger, H. P., *see* French, M. H.
Lock, G. W., manurial trial on banding disease of sisal, 219–28.
Loizides, P. A., fertilizer experiments with potatoes, cotton, and onions in Cyprus, 278–90.

Mackness, R. A., seasonality of beef supplies in New Zealand, 133–8.
Masefield, G. B., nodulation of annual legumes in Malaya, 139–50.
Mitchell, K. J., influence of nitrogen and moisture on growth of pastures, 69–78.

Nour, M. A., control of powdery mildew diseases in the Sudan, 119–31.

Oyenuga, V. A., composition of grasses in Nigeria, 237–55.

Pawson, E., fertility of maize soils in N. Rhodesia, 79–94.
Payne, W. J. A., effect of tropical climate on production by European-type cattle, 321–38.
Peacock, F. C., root-knot nematodes in the Gold Coast, 95–107.

Ramadan, D., nutritive value of *Acacia cyanophylla* seeds, 37–39.
Rees, W. J., clover establishment on power-station waste ash, 256–62.

Sabet, K. A., bacterial disease of maize in S. Rhodesia, 165–6.
Stephen, R. C., planting date and growth of tobacco, and incidence of Cercospora leafspot disease in S. Rhodesia, 291–300.

Tantawy, A. O., twinning in Egyptian cows and buffaloes, 24–28.
Tarr, S. A. J., end-of-season destruction of cotton plants in Sudan Gezira, 185–96.
Tomlinson, T. E., sulphide-containing mangrove soil and rice, 108–18.

Warwick, Jane, *see* Rees, W. J.
Willimott, S. G., *see* Anthony, K. R. M.
Wilson, P. N., the Serere herd of shorthorned Zebu cattle, 263–77.
Woodward, F. N., *see* Black, W. A. P.

SUBJECT INDEX

Acacia cyanophylla, seeds, nutritive value, 37–39.

Beans, broad, *see* Mildew, powdery.
Beef supplies, seasonality of, in New Zealand, 133–8; production, 134; exports, 135; effect on U.K. market, 137; beef, production from dairy-bred steers, 339–55; experiments at Cambridge, 341; survey of commercial dairy herds, 342; carcass measurements, 344; comparison with Argentine chilled beef, 345; preliminary results: live-weight gains, 347; carcass weights, 348; weights of joints, 348; cooking and tasting quality, 351; economics, 352; cheaper wintering systems, 354.
Beet pulp, molassed, mineral composition, 161–4.
Buffaloes, Egyptian, 151–5; calf mortality, 152; abortion, 154; sex ratio, twinning,

155; buffalo bulls, 156–60; buffaloes, milking, calving intervals, 229–36; variation between years, and months, 231; between sequences, 232; age at calving, 233; repeatability, 234; daughter-dam comparisons, 235; *see also* cattle; cows and buffaloes.

Cattle, European-type, performance, effect of tropical climate, 321–38; locality and climate (Fiji and New Zealand), 322; animals (Jersey, Shorthorn, and Jersey-Shorthorn), 323; feeding, and management, 324; results: health, 326; production, 327; feed intake, 330; water intake, 332; temperature and respiration, 333; discussion, 334; liveweight changes, in E. Africa, 10–18; responses of grade and Zebu steers to productive rations after previous sub-maintenance, maintenance and super-maintenance diets, 12–16; bearing on management and breeding practice, 17; Zebu, shorthorned, development of Serere herd, 263–77; history, 264; breeding programme, 265; production data, 267; birth weights, 269; sex ratios, 272; calf mortality, 273; colour distribution, 275; butterfat content of milk, 276; *see also* cows and buffaloes.

Cereals, growth, on sieved seed-beds, 167–84 and 304–20; spring barley and winter oats, effect of soil-separate aggregate size on emergence, 173; on survival, 305, 315; on tillering, 315; effect of time of sowing, 181, 305, 310; of consolidation of seed-bed, 177, 182, 311; importance of frost-heaving, 311; *see also* sorghum; wheat.

Clover, establishment, on power-station waste ash, 256–62; wild white S.184 and white S.100: yields, 258; flower-head and seed production, 259; chemical composition, 259; possible practical applications, 261.

Cotton, interplanting, in SW. Sudan, 29–36; experiments with groundnuts, soya beans, cowpeas, Phaseolus, 32–35; bearing on practice, 36; plants, end-of-season destruction, in Sudan, 185–96; regrowth in relation to rainfall and date of cutting, 186; control by mechanical methods, 188; by chemical methods, 190; bearing on practice in Sudan Gezira, 194; *see also* fertilizer experiments.

Cowpeas, *see* cotton, interplanting; legumes.

Cows and buffaloes, Egyptian, twinning, 24, 28; in relation to age of dam, gestation period, birth- and weaning-weights, 25.

Cyprus, *see Acacia cyanophylla*; fertilizer experiments.

Diseases and pests of plants, *see* groundnuts; maize; mildew; nematodes; rice; sisal; sorghum; tobacco.

Egypt, *see* buffaloes; cows and buffaloes.

Feedingstuffs and fodders, *see* beet pulp; cover; grass species; seaweeds.

Fertilizer experiments, in Cyprus, 278–90; climate, soils and crops, 278; results with potatoes: nitrogen and phosphorus, 281; potassium, 284; animal manure, 286; time of application and type of nitrogen fertilizer, 287; results with onions, 289; with cotton, 289; *see also* manures and fertilizers.

Fiji, *see* cattle, European-type.

Fungicides and insecticides, *see* mildew; nematodes; rice.

Ghana, *see* nematodes, root-knot.

Grass species, in Nigeria, composition and agricultural value, 237–55; dates of sowing, cutting back, sampling, and stages of growth, for twenty species and strains, 240; chemical composition at different stages of growth, 242; *Andropogon* spp., 246; *Chloris gayana*, 246; *Cynodon plectostachyum*, 247; *Eleusine indica*, 247; *Melinis minutiflora*, 248; *Panicum maximum*, 248; *Paspalum conjugatum*, 250; *Pennisetum* spp., 250; *Setaria sphacelata*, 252.

Groundnuts, Cercospora leafspots, resistance to, 60–68; identification of resistance, 60; nature of resistance, 63; *see also* cotton, interplanting; legumes.

Herbicides, *see* cotton, plants; weeds, ecology and control.

Insectides, *see* fungicides and insecticides.

Kenya, *see* cattle, liveweight changes.

Legumes, annual, nodulation, in Malaya, 139–50; *Vigna unguiculata*, 141; *Phaseolus vulgaris*, 141; *Arachis hypogaea*, 142; *Psophocarpus tetragonolobus*, 142; *Glycine soya*, 143; other crops, 144; comparison of regions, 144; of soil conditions, 145; nitrogen fixation, and depth of nodules, 147; correlation of nodule and plant weights, 148; *see also* clover; cowpeas.

Maize, stalk rot and leaf blight, in S. Rhodesia, identity of causal bacterium, 165–6; *see also* soils, maize.

Malaya, *see* legumes.

Manures and fertilizers, *see* nematodes; pastures; sisal; soils, maize; wheat.

Mildew, powdery, control of, in Sudan, 119–31; crops susceptible, 121; comparison of control on broad beans by various sulphur fungicides, 122; and by copper fungicide, 127; bearing on practice in Sudan, 129.

Nematodes, root-knot, in the Gold Coast, 95–107; effect of crop rotations, 95; of chemical treatments: fertilizers, 99; fumigants, 102.

New Zealand, *see* beef supplies; cattle, European-type; pastures.

Nigeria, *see* grass species.

Onions, *see* fertilizer experiments.

Pastures, summer growth, influence of nitrogen and moisture, 69–78; experiments described, 70; results: yields, 71; tillers and plant numbers, 73; soil temperatures, 74; bearing of results on pasture management in New Zealand, 76.
Phaseolus, *see* cotton, interplanting.
Potatoes, *see* fertilizer experiments.
Poultry, sex ratios in domestic fowl, 207–18; more females at fertilization, 211; wider primary ratio for older hens in continuous lay, 211; narrower ratio with cross-mated hens, 212; greater embryonic mortality of females, 213; post-natal mortality not similarly differentiated, 214; discussion of possible explanations, 216; chick growth, depression caused by detergent, 301–3.

Rhodesia, *see* maize, stalk rot and leaf blight; soils, maize; tobacco, growth.
Rice, pests of, crabs, on tidal swamps, 197–206; biology of crabs, 198; control by poison baits, 200; by contact poisons, 202; protection of rice seedlings, 204; bearing on practice in Sierra Leone, 206; *see also* soils, mangrove.

Seaweeds, value in animal feedingstuffs, 51–59; proximate analysis, 53; trace elements, 54; vitamins, 56; in rations for cows, poultry, pigs, 57.
Sierra Leone, *see* rice, pests of; soils, mangrove.
Sisal, banding disease, effect of fertilizers, 219–28; symptoms, 219; occurrence in E. Africa, 220; fertilizer trial on potassium-deficient soil, 221; fibre yields, 223; effect of potassium on yield and disease incidence, 225; economic considerations, 225.
Soils, maize, composition and fertility, in N. Rhodesia, 79–94; description, 80; responses to nitrogen, 82; time of application, 83; relation to plant density, 85; responses to phosphorus, 87; relation to soil phosphorus, 91; responses to sulphur, and to potassium, 93; mangrove, sulphide-containing, changes on drying, effect on growth of rice, 108–18; change of pH with drying, 111; growth of rice seedlings, 112; relation to extractable iron, aluminium, and phosphorus, 115; bearing on rice-growing in Sierra Leone, 116; *see also* cereals, growth, on sieved seed-beds.
Sorghum, breeding, for weevil-resistance in E. Africa, 1–9; relation of grain characters and weevil damage, 2; selection for resistant strains in the field, 6.
Soya beans, *see* cotton, interplanting; legumes.
Sudan, *see* cotton, interplanting; cotton, plants; mildew, powdery; weeds.

Tanganyika, *see* groundnuts, Cercospora leafspots; sisal, banding disease; sorghum breeding.
Tobacco, growth, and incidence of Cercospora leafspot disease, influence of planting date, in S. Rhodesia, 291–300; yield and quality, 293; incidence of Cercospora leafspot, 294; relation at various planting dates, 296; bearing of results on practice, 297.
Trace elements, *see* seaweeds.

Uganda, *see* cattle, Zebu.

Vitamins, *see* seaweeds.

Weeds, ecology and control, in Sudan Rainlands, 40–50; weed flora, 41; agricultural practices, 44; use of herbicides, 48.
Wheat, winter, application of nitrogen, effect of rate and time, 19–23; yields, 20; bearing on practice in Aberdeenshire, 22.

ERRATA

Vol. XXV, No. 100 (October 1957)

Plate 6 (Fig. 5c), facing p. 321:—

for Damage more severe than in *h*
but less than in *g*.
Surface less deformed than in *g*

read Damage more severe than in *b*
but less than in *a*.
Surface less deformed than in *a*

Page 325, Table 2, line 1:—

for 5·9

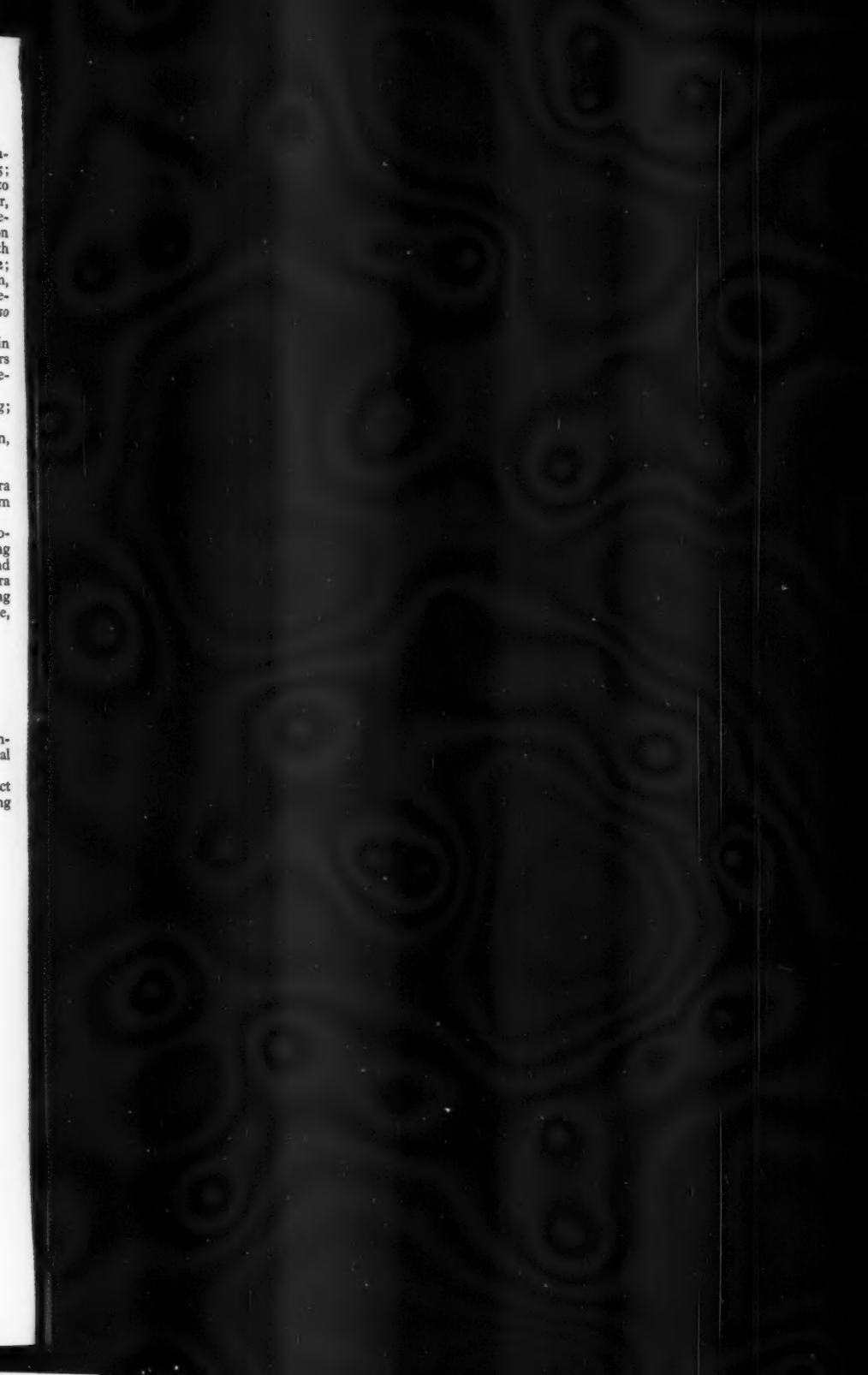
read 25·9

Page 326, lines 23 and 24:—

for and recordings were made twice daily at 11 a.m. and 3 p.m. on three consecutive days,

read and three consecutive recordings were made twice daily at 11 a.m. and 3 p.m.,

Page 328, Table 4, line 6:—

for 6197

read 6187